

# PATENT SPECIFICATION



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## PROVISIONAL SPECIFICATION.

### Improvements in and Connected with Devices for Sharpening Chisels, Plane Blades and the like.

I, EDWARD LAWRENCE CHADWICK, of 17, Drayton Gardens, South Kensington, in the County of London, a British subject, do hereby declare the nature of this invention to be as follows:—

This invention has for its object to provide an easily manufactured device of simple character, whereby chisels, plane blades, gouges and other similar woodworkers' and woodturners' tools (herein after included for brevity in the term blades) can be retained at the correct angle whilst being sharpened.

For this purpose a device, according thereto, comprises a flat frame of metal or other substantially rigid material, suitably a stamping or casting, which tapers from the forward end, herein after known as the head, to a boss at the opposite end and has on it's under side webbed edges to increase rigidity.

The head is formed by extensions of the aforementioned webs symmetrically arranged on each side, so as to leave between them an opening of such width as to allow of the easy insertion of the widest possible blade, the forward end of the opposed webs being joined across the aforesaid opening by two metal rods suitably secured at each end in holes in the web and placed one more or less vertically over the other.

Suspended upon the topmost of these rods, it may be by a lug or lugs fixed on a transverse line intermediate between it's ends, is placed a metal plate or grid of the type frequently employed for gripping the blade in a carpenters steel plane, the upper end of which has passing through it a knurled headed screw capable of easy adjustment by hand.

The blade to be sharpened is passed through the transverse opening provided in the forward end of the head between the suspended plate and the lower rod, on the latter of which it is allowed to rest, in such a manner that a substantial

grip is provided by tightening the adjusting screw against the blade which is thus held rigidly at a convenient angle to the frame.

Alternatively the head may be made to grip the plate by substituting, in place of the metal rods, lugs or shoulders on the inner side of each of the above mentioned web extensions, which form the head, and extending over the grid or plate holding it in position when the gripping screw is tightened upon the blade.

The boss provided at the tail end has freely passing through it at right angles to its length and in an approximately vertical plane, a rod held at any desired point in its length by a clamping screw.

The lower end of this rod may advantageously be provided with a roller running on a shaft held in suitable bearings it may be formed on a forked extension at the lower end of the rod or it may have in lieu of the roller or forked extension a knob or other bearing surface capable of being easily moved backward and forward when in contact with the surface of a bench or table top.

With the blade gripped in the frame and resting on the sharpening medium, it may be an oil or carbonundum stone, at approximately the correct angle for sharpening, final adjustment is made by raising or lowering the rear end of the frame up or down the rod carrying the runner or roller and securing it in the desired position by the set screw already described, the said roller or knob being caused to bear on the table in rear of the stone.

In this manner a device is provided, by which the fault known as "rounding" is obviated in sharpening a chisel or plane blade and a perfect edge is easily obtained.

Dated this 10th day of February, 1923.

E. L. CHADWICK. 95

## COMPLETE SPECIFICATION.

## Improvements in and Connected with Devices for Sharpening Chisels, Plane Blades and the like.

I, EDWARD LAWRENCE CHADWICK, of 17, Drayton Gardens, South Kensington, in the County of London, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has for its object to provide an easily manufactured device of simple character, whereby chisels, plane-blades, gouges, and other similar wood-workers' and wood-turners' tools (hereby after included for brevity in the term blades), can be retained at the correct angle while being sharpened.

This device is of the kind where the tool is held in a frame having an adjustable rod projecting from it said rod carrying a runner to slide on the bench whilst the tool rubs on the oilstone, the desired cutting angle of the edge being controlled by altering the projection of the rod.

According to the invention a chisel, gouge, plane-blade or like tool is held for sharpening in a device comprising a frame of metal or other suitable rigid material, which tapers from one end, (hereinafter known as the head), to a boss at the opposite end has webs on its underside to increase its rigidity, which webs are extended at the head so as to allow the free insertion between them of any blade it may be required to deal with.

The extended ends of these webs are drilled to take two metal rods passing through and secured to same, connecting the outer ends and spaced approximately in a vertical plane.

A metal plate or grid, (similar to that generally employed in gripping the blades of a carpenter's steel plane), is suspended on the uppermost of these rods, by a lug or lugs, and the upper end of this is provided with a boss through which a screw passes turned by a milled head, and which clamps the blade to be operated upon. The blade to be sharpened is passed through the opening provided in the forward end of the head between the suspended plate and the lower of the two rods, on the latter of which it is allowed to rest, in such a manner that a substantial grip is provided by tightening the screw against the blade which is thus held rigidly at a convenient angle to the frame, and pro-

jecting so as to bring the edge beneath a pointer attached to the suspended plate.

In place of the metal rods lugs or shoulders may be provided on the inner sides of the extended webs and projecting sufficiently over the grid or plate, to hold it in position when the clamping screw is tightened on the blade.

The boss provided on the tail end of the frame is drilled approximately perpendicularly to the plane of the latter to allow of a rod freely passing through it and held at any desired position by a clamping screw. The lower end of this rod may be forked and fitted with a roller moving easily on a shaft fixed between the legs of same, or alternatively it may be fitted with a knob or other bearing surface capable of being easily moved backwards and forwards along the surface of a bench or table top.

When the blade is gripped in the frame, with the edge beneath the pointer and rests on the sharpening medium, (generally an oil or carborundum stone), at approximately the correct angle for sharpening, a final adjustment can be made by raising or lowering the rear end of the frame up or down on the rod carrying the runner or roller and clamping it in the desired position by the set screw provided, the said runner or roller being kept in contact with the table behind the stone during the process of sharpening, and if desired the rod may be calibrated in order to assist the operation in setting the blades.

In the accompanying drawings,

Fig. 1, is a part section of the device, and Fig. 2, a plan of same omitting the blade clamp, which is shown in detail in Figs. 3 & 4.

The blade to be sharpened, 1, is held against one of the metal rods, 6, and a cross web, 14, of the frame 8, 9, by the pressure of the clamping screw, 2, and its action on the plate, 3, which last can pivot round the upper metal rod, 5, the binding action of this firmly holding the blade, 1, at an angle to the upper surface of the frame, 8, 9.

The adjusting rod 10, passes through a hole drilled perpendicular to the upper surface of the frame 8, 9, as shown and is provided at its lower end with a forked piece 12, carrying a small spindle, on which a roller 13, turns freely between the arms of the fork.

This rod may be clamped in any desired position by means of the knurled head screw 11, and to assist in setting the blade graduation marks may be impressed on the rod.

A plan of the clamping plate is given in Fig. 4, and a side view in Fig. 3.

The body of the plate consists of a plain slab 3, or this may be lightened by having slots as shown at 18, in same to dispense with superfluous metal, and two lugs 4, on the upper surface pivot on the metal rod 5, by means of clearance holes drilled in each lug at 19, and in the case of a plain blade as a chisel say, the clamping screw is made to press directly on it, bringing the forward end of the plate down on the blade further forward, the result being to hold the blade very securely, and quite free from any tendency to turn beneath the point of the clamping screw, and so work loose; this last defect is frequently observed when a plain screw point presses on one side of a blade to hold it in a frame.

Most plane-irons fitted into wooden stocks are made with a break-iron fastened to the cutting blade by a screw passing through a slot in the middle of the latter and to enable the clamping screw 2, to hold these the slot must be bridged in some way to form a point of application.

Two methods of doing this are shown, in the first a circular washer 20, shown in Fig. 5 of the accompanying drawings is fitted loosely over the end of the screw 2, whose diameter exceeds that of any of the slots expected to be met with, or alternatively a slightly flexible plate, 17, shown in Figs. 3, and 4, is attached to the underside of plate 3, extending beneath the end of the clamping screw 2, and having a width nearly equal to that of the plate 3.

In place of a roller running in a fork at the end of the rod 10, a polished hard surface may be substituted as shown at 21, in Fig. 6 of the accompanying drawings.

The method of using the device is indicated in Fig. 7 of accompanying drawings which shows a blade 1, gripped by the holding clamp, and resting on the

surface of the oil-stone 23, the sharpening angle being varied by altering the length of the roller rod intercepted between the frame 8, 9, and the bench top 24.

By means of the edge setting pointer 15, which consists of a metal strip attached to the clamping plate 3, and shown in Figs. 1, 3, 4, of accompanying drawings, the projection of the blade 1, can be kept constant and then the calibration on the rod 10, makes it possible to place any blade at once to exactly the same sharpening angle as the previously used one, a result which saves time and is practically equivalent to a graduated degree plate.

Figs. 8, and 9, of the accompanying drawings show the head portion of a frame in which the two metal rods 5, and 6, are replaced by lugs 25, 26, and a bar 27, cast in one with the frame and serving the same purpose as the rods in the operation of the clamping piece and screw. In this case the clamping piece may have notches formed in it 28, to engage with the lugs 25, and 26, instead of the projections 4, 4, in Fig. 4.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

A device of the kind hereinbefore referred to, for holding a chisel, gouge, plane-blade or like tool for sharpening, comprising a frame at one end of which is a clamping plate to hold the tool by tightening one screw, and at the other end of which is a rod sliding approximately perpendicular to the plane of the frame and fixed in the desired position by a clamping screw, the lower end of this rod having a roller or smooth surface attached to it so as to move freely along the bench top, graduating marks being provided on this rod for use in conjunction with an edge setting pointer attached to the clamping plate to enable the sharpening angle formed by the abrasion of an oilstone to be recorded and easily repeated.

Dated this 26th day of March, 1924.  
EDWARD LAWRENCE CHADWICK.

[This Drawing is a reproduction of the Original on a reduced scale.]

